SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q85512

Application No.: 10/522,523

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-2. (canceled).

3. (previously presented): Diamine compounds represented by the general formula I:

$$H_2N$$
 A^1
 A^2
 NH_2

wherein A¹ and A² each independently represent a mesogen group represented by general formula II:

$$\cdots S^{\frac{1}{2}} C^{\frac{1}{2}} Z^{\frac{1}{2}} C^{\frac{2}{2}} Z^{\frac{2}{2}} C^{\frac{3}{2}} D$$

wherein

c1 to c3 each independently represent an aromatic or an alicyclic group, which is unsubstituted or mono- or poly-substituted by a cyano group or by halogen atoms, or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms,

D

S1

wherein one or more non-adjacent -CH₂- groups is independently replaced by a group B;

represents a hydrogen atom, a halogen atom, a cyano group, or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, wherein one or more non-adjacent -CH2-groups is independently replaced by a group B, or represents a organic group having a steroid skeleton;

represents 1,2-ethylene, 1,3-propylene, 1,4-butylene, 1,5-pentylene, 1,6-hexylene, 1,7-heptylene, 1,8-octylene, 1,9-nonylene, 1,10-decylene, 1,11-undecylene, 1,12-dodecylene, 3-methyl-1,4-butylene, 2-(methylenoxy)ethylene, 3-(methylenoxy)propylene, 4-(methylenoxy)butylene, 5-(methylenoxy)pentylene, 6-(methylenoxy)hexylene, 7-(methylenoxy)heptylene, 8-(methylenoxy)octylene, 9-(methylenoxy)nonylene, 10-(methylenoxy)decylene,

11-(methylenoxy)undecylene, 12-(methylenoxy)dodecylene,

2-(carbonyloxy)ethylene, 3-(carbonyloxy)propylene, 4-(carbonyloxy)butylene,

5-(carbonyloxy)pentylene, 6-(carbonyloxy)hexylene, 7-(carbonyloxy)heptylene,

8-(carbonyloxy)octylene, 9-(carbonyloxy)nonylene, 10-(carbonyloxy)decylene,

11-(carbonyloxy)undecylene, 12-(carbonyloxy)dodecylene,

2-(carbonylamino)ethylene, 3-(carbonylamino)propylene,

4-(carbonylamino)butylene, 5-(carbonylamino)pentylene,

- 6-(carbonylamino)hexylene, 7-(carbonylamino)heptylene,
- 8-(carbonylamino)octylene, 9-(carbonylamino)nonylene,
- 10-(carbonylamino)decylene, 11-(carbonylamino)undecylene,
- 12-(carbonylamino)dodecylene, 3-propyleneoxy, 3-propyleneoxycarbonyl,
- 2-ethylenovloxy, 4-butyleneoxy, 4-butyleneoxycarbonyl, 3-propylenoyloxy,
- 5-pentyleneoxy, 5-pentyleneoxycarbonyl, 4-butylenoyloxy, 6-hexyleneoxy,
- 6-hexyleneoxycarbonyl, 5-pentylenoyloxy, 7-heptyleneoxy,
- 7-heptyleneoxycarbonyl, 6-hexylenoyloxy, 8-octyleneoxy,
- 8-octyleneoxycarbonyl, 7-heptylenoyloxy, 9-nonyleneoxy,
- 9-nonyleneoxycarbonyl, 8-octylenoyloxy, 10-decyleneoxy,
- 10-decyleneoxycarbonyl, 9-nonylenoyloxy, 11-undecyleneoxy,
- 11-undecyleneoxycarbonyl, 10-decylenoyloxy, 12-dodecyleneoxy,
- 12-dodecyleneoxycarbonyl, 11-undecylenoyloxy, 3-propyleneaminocarbonyl,
- 4-butyleneaminocarbonyl, 5-pentyleneaminocarbonyl, 6-hexyleneaminocarbonyl,
- 7-heptyleneaminocarbonyl, 8-octyleneaminocarbonyl, 9-nonyleneaminocarbonyl,
- 10-decyleneaminocarbonyl, 11-undecyleneaminocarbonyl,
- 12-dodecyleneaminocarbonyl, 2-ethylenecarbonylamino,
- 3-propylenecarbonylamino, 4-butylenecarbonylamino,
- 5-pentylenecarbonylamino, 6-hexylenecarbonylamino,
- 7-heptylenecarbonylamino, 8-octylenecarbonylamino, 9-nonylenecarbonylamino,
- 10-decylenecarbonylamino, 11-undecylenecarbonylamino,
- 2-(methylenoxy)ethanoyloxy, 3-(methylenoxy)propyloxy,
- 3-(methylenoxy)propyloxycarbonyl, 4-(methylenoxy)butyloxy,

- 4-(methylenoxy)butyloxycarbonyl, 3-(methylenoxy)propanoyloxy,
- 5-(methylenoxy)pentyloxy, 5-(methylenoxy)pentyloxycarbonyl,
- 4-(methylenoxy)butanoyloxy, 6-(methylenoxy)hexyloxy,
- 6-(methylenoxy)hexyloxycarbonyl, 5-(methylenoxy)pentanoyloxy,
- 7-(methylenoxy)heptyloxy, 7-(methylenoxy)heptyloxycarbonyl,
- 6-(methylenoxy)hexanoyloxy, 8-(methylenoxy)octyloxy,
- 8-(methylenoxy)octyloxycarbonyl, 7-(methylenoxy)heptanoyloxy,
- 9-(methylenoxy)nonyloxy, 9-(methylenoxy)nonyloxycarbonyl,
- 8-(methylenoxy)octanoyloxy, 10-(methylenoxy)decyloxy,
- 10-(methylenoxy)decyloxycarbonyl, 9-(methylenoxy)nonanoyloxy,
- 11-(methylenoxy)undecyloxy, 11-(methylenoxy)undecyloxycarbonyl,
- 10-(methylenoxy)decanoyloxy, 12-(methylenoxy)dodecyloxy,
- 12-(methylenoxy)dodecyloxycarbonyl, 11-(methylenoxy)undecanoyloxy,
- 3-(methylenoxy)propylaminocarbonyl, 4-(methylenoxy)butylaminocarbonyl,
- 5-(methylenoxy)pentylaminocarbonyl, 6-(methylenoxy)hexylaminocarbonyl,
- 7-(methylenoxy)heptylaminocarbonyl, 8-(methylenoxy)octylaminocarbonyl,
- 9-(methylenoxy)nonylaminocarbonyl, 10-(methylenoxy)decylaminocarbonyl,
- 11-(methylenoxy)undecylaminocarbonyl,
- 12-(methylenoxy)dodecylaminocarbonyl, 2-(methylenoxy)ethanoylamino,
- 3-(methylenoxy)propanoylamino, 4-(methylenoxy)butanoylamino,
- 5-(methylenoxy)pentanoylamino, 6-(methylenoxy)hexanoylamino,
- 7-(methylenoxy)heptanoylamino, 8-(methylenoxy)octanoylamino,
- 9-(methylenoxy)nonanoylamino, 10-(methylenoxy)decanoylamino,

- 11-(methylenoxy)undecanoylamino, 12-(methylenoxy)dodecylaminocarbonyl,
- 2-(carbonyloxy)ethanoyloxy, 3-(carbonyloxy)propyloxy,
- 3-(carbonyloxy)propyloxycarbonyl, 4-(carbonyloxy)butyloxy,
- 4-(carbonyloxy)butyloxycarbonyl, 3-(carbonyloxy)propanoyloxy,
- 5-(carbonyloxy)pentyloxy, 5-(carbonyloxy)pentyloxycarbonyl,
- 4-(carbonyloxy)butanoyloxy, 6-(carbonyloxy)hexyloxy,
- 6-(carbonyloxy)hexyloxycarbonyl, 5-(carbonyloxy)pentanoyloxy,
- 7-(carbonyloxy)heptyloxy, 7-(carbonyloxy)heptyloxycarbonyl,
- 6-(carbonyloxy)hexanoyloxy, 8-(carbonyloxy)octyloxy,
- 8-(carbonyloxy)octyloxycarbonyl, 7-(carbonyloxy)heptanoyloxy,
- 9-(carbonyloxy)nonyloxy, 9-(carbonyloxy)nonyloxycarbonyl,
- 8-(carbonyloxy)octanoyloxy, 10-(carbonyloxy)decyloxy,
- 10-(carbonyloxy)decyloxycarbonyl, 9-(carbonyloxy)nonanoyloxy,
- 11-(carbonyloxy)undecyloxy, 11-(carbonyloxy)undecyloxycarbonyl,
- 10-(carbonyloxy)decanoyloxy, 12-(carbonyloxy)dodecyloxy,
- 12-(carbonyloxy)dodecyloxycarbonyl, 11-(carbonyloxy)undecanoyloxy,
- 3-(carbonyloxy)propylaminocarbonyl, 4-(carbonyloxy)butylaminocarbonyl,
- 5-(carbonyloxy)pentylaminocarbonyl, 6-(carbonyloxy)hexylaminocarbonyl,
- 7-(carbonyloxy)heptylaminocarbonyl, 8-(carbonyloxy)octylaminocarbonyl,
- 9-(carbonyloxy)nonylaminocarbonyl, 10-(carbonyloxy)decylaminocarbonyl,
- 11-(carbonyloxy)undecylaminocarbonyl,
- 12-(carbonyloxy)dodecylaminocarbonyl, 2-(carbonyloxy)ethanoylamino,
- 3-(carbonyloxy)propanoylamino, 4-(carbonyloxy)butanoylamino,

5-(carbonyloxy)pentanoylamino, 6-(carbonyloxy)hexanoylamino,

7-(carbonyloxy)heptanoylamino, 8-(carbonyloxy)octanoylamino,

9-(carbonyloxy)nonanoylamino, 10-(carbonyloxy)decanoylamino,

11-(carbonyloxy)undecanoylamino, 12-(carbonyloxy)dodecylaminocarbonyl

6-(3-propyleneaminocarbonyloxy)hexylene, 6-(3-propyleneoxy)hexylene,

6-(3-propyleneoxy)hexyloxy, 6-(3-propyleneaminocarbonyloxy)hexyloxy,

6-(3-propyleneaminocarbonyl)hexyl, 6-(3-propyleneaminocarbonyl)hexyloxy,

2-(1-methyleneoxy)ethyloxycarbonyloxy,

3-(1-methyleneoxy)propyloxycarbonyloxy,

6-(1-methyleneoxy)hexyloxycarbonyloxy, 2-(1-methyleneoxycarbonyl)ethylene,

3-(1-methyleneoxycarbonyl)propyloxycarbonyloxy,

6-(1-methyleneoxycarbonyl)hexyloxycarbonyloxy,

6-(3-propyleneoxycarbonyloxy)hexylene, 6-(3-propyleneoxycarbonyl)hexylene,

2-(1-methyleneaminocarbonyl)ethylene,

3-(1-methyleneaminocarbonyl)propylene,

6-(1-methyleneaminocarbonyl)hexylene, and

6-(3-propyleneaminocarbonyloxy)hexylene,

6-(3-propyleneaminocarbonyl)hexylene,

21, Z2 each independently of the other represent a single bond or a spacer unit which is straight-chain or branched alkylene group which is unsubstituted, mono or polysubstituted by a cyano group or by halogen atoms, having 1 to 8 carbon atoms or a spacer unit such a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by a cyano group or by halogen atoms,

having 1 to 8 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group B;

n1 is 0 or 1, and

n2 and n3 are 1; and

B represents a group selected from -O-, -CO-, -CO-O-, -O-CO-, -NR¹-, -NR¹-CO-, -CO-NR¹-, -NR¹-CO-O-, -O-CO-NR¹-, -NR¹-CO-NR¹-, -CH=CH-, -C≡C-, -O-CO-O- and -Si(CH₃)₂-O-Si(CH₃)₂- and wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.

- 4. (previously presented): Diamine compounds according to claim 3, wherein C¹ to C³ are selected from pyrimidine-2,5-diyl, pyridine-2,5-diyl, 1,4- or 2,6-naphthylene, decahydronaphthalin-2,6-diyl, 1,2,3,4-tetrahydronaphthalin-2,6-diyl, cyclohexane-1,4-diyl and 1,4-phenylene, which is unsubstituted or substituted by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine having from 1 to 12 carbon atoms in which optionally one or more non-adjacent -CH₂- groups are replaced by -O-, -CO-, -CO-O-, -O-CO-, -CH=CH- and -C≡C-.
- 5. (previously presented): Diamine compounds according to claim 3, wherein C¹ to C³ are selected from cyclohexane-1,4-diyl and 1,4-phenylene, which is unsubstituted or substituted by a cyclic, straight-chain or branched alkyl residue having 1 to 12 carbon atoms in

which optionally one or more non-adjacent -CH₂- groups are replaced by -O-, -CO-, -CO-O-, -O-CO-, -CH=CH- and -C≡C-.

- 6. (previously presented): Diamine compounds according to claim 3, wherein D is a hydrogen atom, a fluoro atom, a chloro atom, a cyano group, a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or polysubstituted by fluorine, chlorine, having 1 to 18 carbon atoms or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or polysubstituted by fluorine, chlorine, having 1 to 18 carbon atoms, wherein one or more non-adjacent-CH₂- groups is independently replaced by -O-, -CO-, -CO-O-, -O-CO-, -NR¹-CO-, -CO-NR¹-, -NR¹-CO-O-, -O-CO-NR¹-, -CH=CH-, -C≡C- and -O-CO-O-, wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms, or represents an organic group having a steroid skeleton.
- 7. (previously presented): Diamine compounds according to claim 3, wherein D is a hydrogen atom, a fluoro atom, a chloro atom, a cyano group, a straight-chain or branched alkyl residue, having 1 to 12 carbon atoms or a straight-chain or branched alkyl residue, having 1 to 12 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by -O-, -CO-, -CO-O-, -CH=CH-, -C≡C- and -O-CO-O-.
- 8. (previously presented): Diamine compounds according to claim 3, wherein S¹ is selected from a single covalent bond, -CO-O-, -CO-NR¹-, -CO-, a straight-chain or branched

alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine and cyano, having 1 to 24 carbon atoms, and a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine and cyano, having 1 to 24 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group B, wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.

- 9. (previously presented): Diamine compounds according to claim 3, wherein S¹ is selected from a single covalent bond, -CO-O-, -CO-, -(CH₂)_r-, -(CH₂)_r-O-, -(CH₂)_r-CO-, -(CH₂)_r-CO-, -(CH₂)_r-CO-NR¹-, -(CH₂)_r-NR¹-CO-, -(CH₂)_r-NR¹-, -CO-O-(CH₂)_r-, -CO-NR¹-, -CO-O-(CH₂)_r-, -CO-NR¹-, -CO-O-, -C
- 10. (previously presented): Diamine compounds according to claim 3, wherein S^1 is selected from a single covalent bond, $-(CH_2)_{r}$ -, $-(CH_2)_{r}$ -O-, $-(CH_2)_{r}$ -CO-O-, $-(CH_2)_{r}$ -CO-O-, $-(CH_2)_{r}$ -CO-NH-, $-(CH_2)_{r}$ -NH-CO-, $-(CH_2)_{r}$ -, $-(CO-O-(CH_2)_{r}$ -)

-CO-NH-(CH₂)_r-O-, -(CH₂)_r-NH-CO-(CH₂)_s-, -(CH₂)_r-NH-CO-O-(CH₂)_s-, -(CH₂)_r-O-(CH₂)_s-O-, -(CH₂)_r-NH-CO-(CH₂)_s-O-, -(CH₂)_r-NH-CO-(CH₂)_s-O-, -(CH₂)_r-NH-CO-(CH₂)_s-O-, wherein r and s each represent an integer from 1 to 12 and $r + s \le 15$.

11. (canceled).

- and Z^2 are selected from a single covalent bond, a spacer unit such as a straight-chain or branched alkylene group, which is unsubstituted, mono or poly-substituted by fluoro atoms, having 1 to 8 carbon atoms, and a spacer unit which is a straight-chain or branched alkylene group, which is unsubstituted, mono or poly-substituted by fluoro atoms, having 1 to 8 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group selected from -O-, -CO-, -CO-O-, -O-CO-, -NR¹-CO-, -CO-NR¹-, -CH=CH-, -C=C-, and wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.
- and Z² are selected from a single covalent bond, a spacer unit such a straight-chain or branched alkylene group having 1 to 4 carbon atom, and a spacer unit which is straight-chain or branched alkylene group having 1 to 4 carbon atoms, wherein one or two non-adjacent -CH₂- groups is independently replaced by a group selected from -O-, -CO-, -CO-O-, -O-CO-.

- 14. (canceled).
- 15. (previously presented): Diamine compounds according to claim 3, wherein n1 = 0 with n2 = 1 and n3 = 1.
 - 16. (canceled).
- 17. (previously presented): Diamine compounds according to claim 3, wherein the steroid skeleton is a 3-cholesteryl or a 3-cholestaryl residue.

18-20. (canceled).

- 21. (previously presented): Diamine compounds according to claim 3, wherein A¹ and A² each independently represent a photoreactive group which can be photoisomerized on exposure to UV or laser light, wherein the photoreactive groups include cinnamates, benzylidenephthalimidines, benzylideneacetophones, diphenylacetylenes stilbazoles, uracyl, quinolinone, maleinimides, or cinnamylidene acetic acid derivatives.
- 22. (previously presented): Diamine compounds according to claim 3, wherein A¹ and A² each independently represent a photoreactive group which can be photoisomerized on

exposure to UV or laser light, wherein the photoreactive groups are represented by general formulae IIIa and IIIb:

$$S^2$$
 E Y F IIIa

$$O$$
 E
 G
 $IIIb$

wherein

E

represents pyrimidine-2,5-diyl, pyridine-2,5-diyl, 2,5-thiophenylene, 2,5-furanylene, 1,4- or 2,6-naphthylene, or phenylene, which is unsubstituted or mono- or poly-substituted by fluorine, chlorine, by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently be replaced by a group B as defined hereinabove;

F

represents $-OR^2$, $-NR^3R^4$ or an oxygen atom, which defines together with the ring E a coumarin unit, wherein R^2 , R^3 and R^4 are selected from hydrogen, a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or

poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group J, or R³ and R⁴ together form a C₅₋₈ alicyclic ring; wherein

J represents a group selected from -O-, -CO-, -CO-O-, -O-CO-, -NR¹-,
-NR¹-CO-, -CO-NR¹-, -NR¹-CO-O-, -O-CO-NR¹-, -NR¹-CO-NR¹-,
-CH=CH-, -C≡C-, -O-CO-O- and -Si(CH3)2-O-Si(CH3)2-, an aromatic or
an alicyclic group, and wherein R¹ represents a hydrogen atom or a
straight chain or branched hydrocarbon radical having from 1 to 6 carbon
atoms;

G

represents a hydrogen atom, or a halogen atom, a straight-chain or branched alkyl group which is unsubstituted, mono or poly-substituted by cyano, fluorine, chlorine, having 1 to 24 carbon atoms, or a straight-chain or branched alkyl group which is unsubstituted, mono or poly-substituted by cyano, fluorine, chlorine, having 1 to 24 carbon atoms, wherein one or more -CH₂- groups is independently replaced by a group J, with the proviso that oxygen atoms are not directly attached to each other;

 S^2 , S^3

each independently of the other represent a single bond, a spacer unit which is a straight-chain or branched alkylene group which is unsubstituted, mono or polysubstituted by fluorine, chlorine, or cyano, having 1 to 40 carbon atoms, or a spacer unit which is a straight-chain or branched alkylene group which is

unsubstituted, mono or poly-substituted by fluorine, chlorine, or cyano, having 1 to 40 carbon atoms, wherein one or more -CH₂- groups is independently replaced by a group J, with the proviso that oxygen atoms are not directly attached to each other;

- q represents an oxygen atom or -NR¹- wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms; X, Y each independently of the other represents hydrogen, fluorine, chlorine, cyano, alkyl optionally substituted by fluorine having 1 to 12 carbon atoms in which optionally one or more non-adjacent alkyl -CH₂- groups are replaced by -O-, -CO-O-, -O-CO- and/or -CH=CH-.
- 23. (original): Diamine compounds according to claim 22, wherein E is selected from pyrimidine-2,5-diyl, pyridine-2,5-diyl, 2,5-thiophenylene, 2,5-furanylene, 1,4- or 2,6-naphthylene and phenylene, which is unsubstituted or substituted by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine having 1 to 12 carbon atoms in which optionally one or more non-adjacent alkyl -CH₂- groups are replaced by -O-, -CO-, -CO-O-, -O-CO-, -CH=CH- and -C≡C-.
- 24. (previously presented): Diamine compounds according to claim 22, wherein E is selected from 2,5-furanylene, 1,4- or 2,6-naphthylene and phenylene, which is unsubstituted or substituted by a cyclic, straight-chain or branched alkyl residue having 1 to 12 carbon atoms in

which optionally one or more non-adjacent alkyl -CH₂- groups are replaced by -O-, -CO-, -CO-, -CO-, -CH=CH- and -C \equiv C-.

- 25. (previously presented): Diamine compounds according to claim 22, wherein F is selected from –OR² and –NR³R⁴, wherein R² and R³ represent a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, cyano, having 1 to 18 carbons atoms or a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly- substituted by fluorine, chlorine, cyano, having 1 to 18 carbons atoms, wherein one or more non-adjacent alkyl -CH₂- groups is independently replaced by -O- or -CH=CH-, wherein R⁴ is selected from a hydrogen atom, a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, cyano, having 1 to 18 carbons atoms or a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly- substituted by fluorine, chlorine, cyano, having 1 to 18 carbons atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by -O- or -CH=CH-, or R⁴ and R⁵ together to form a C₅-8 alicyclic ring.
- 26. (previously presented): Diamine compounds according to claim 22, wherein F is selected from the group comprising –OR² or –NHR³, wherein R² and R³ represent a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine atoms, having 1 to 18 carbon atoms or a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly- substituted by fluorine atoms, having 1 to 18 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by -O-.

- 27. (previously presented): Diamine compounds according to claim 22, wherein G is a hydrogen atom, or fluorine atom, or chlorine atom, a straight-chain or branched alkyl group which is unsubstituted, mono-substituted by cyano, fluorine or chlorine or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, or a straight-chain or branched alkyl group which is unsubstituted, mono-substituted by cyano, fluorine or chlorine or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, wherein one or more -CH₂- groups is independently replaced -O-, -CO-, -CO-O-, -O-CO-, -NR¹-, -NR¹-CO-, -CO-NR¹-, -NR¹-CO-O-, an aromatic or an alicyclic group, with the proviso that oxygen atoms are not directly attached to each other, and wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.
- 28. (previously presented): Diamine compounds according to claim 22, wherein G is a hydrogen atom, a straight-chain or branched alkyl group having 1 to 18 carbon atoms, or a straight-chain or branched alkyl group having 1 to 18 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced -O-, -CO-, -CO-O-, -O-CO-, -NR¹-, -NR¹-CO-, -CO-NR¹-, and -O-CO-O-, with the proviso that oxygen atoms are not directly attached to each other, and wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.

- 29. (previously presented): Diamine compounds according to claim 22, wherein S² is selected from a single covalent bond, -CO-O-, -CO-NR¹-, -CO-, a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine, or cyano, having 1 to 24 carbon atoms, and a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine, or cyano, having 1 to 24 carbon atoms, wherein one or more -CH₂- groups is independently replaced by a group J, with the proviso that oxygen atoms are not directly attached to each other, wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.
- 30. (previously presented): Diamine compounds according to claim 22, wherein S^2 is selected from a single covalent bond, -CO-O-, -CO-, $-(CH_2)_r-$, $-(CH_2)_r-O-$, $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$, wherein $-(CH_2)_r-CO-$, and $-(CH_2)_r-CO-$,

- 31. (previously presented): Diamine compounds according to claim 22, wherein S^2 is selected from a single covalent bond, $-(CH_2)_r$, $-(CH_2)_r$ -O-, $-(CH_2)_r$ -CO-O-, $-(CH_2)_r$ -O-CO-, $-(CH_2)_r$ -NH-CO-, $-(CH_2)_r$ -NH-CO-, $-(CH_2)_r$ -NH-CO- $-(CH_2)_r$ -NH
- 32. (previously presented): Diamine compounds according to claim 22, wherein S² include 1,2-ethylen, 1,3-propylen, 1,4-butylen, 1,5-pentylen, 1,6-hexylen, 1,7-heptylen, 1,8-octylen, 1,9-nonylen, 1,10-decylen, 1,11-undecylen, 1,12-dodecylen, 3-methyl-1,4-butylen, 2-(methylenoxy)ethylen, 3-(methylenoxy)propylen, 4-(methylenoxy)butylen, 5-(methylenoxy)pentylen, 6-(methylenoxy)hexylen, 7-(methylenoxy)heptylen, 8-(methylenoxy)octylen, 9-(methylenoxy)nonylen, 10-(methylenoxy)decylen, 11-(methylenoxy)undecylen, 12-(methylenoxy)dodecylen, 2-(carbonyloxy)ethylen, 3-(carbonyloxy)propylen, 4-(carbonyloxy)butylen, 5-(carbonyloxy)pentylen, 6-(carbonyloxy)hexylen, 7-(carbonyloxy)heptylen, 8-(carbonyloxy)undecylen, 12-(carbonyloxy)dodecylen, 11-(carbonyloxy)undecylen, 12-(carbonylamino)butylen, 5-(carbonylamino)ethylen, 3-(carbonylamino)propylen, 4-(carbonylamino)butylen, 5-(carbonylamino)pentylen, 6-(carbonylamino)hexylen, 7-(carbonylamino)heptylen, 8-(carbonylamino)octylen, 9-(carbonylamino)nonylen, 10-(carbonylamino)decylen, 11-(carbonylamino)dodecylen, 11-(carbonylamino)dodecylen,

3-propylenoxy, 3-propylenoxycarbonyl, 2-ethylenoyloxy, 4-butylenoxy, 4-butylenoxycarbonyl, 3-propylenovloxy, 5-pentylenoxy, 5-pentylenoxycarbonyl, 4-butylenoyloxy, 6-hexylenoxy, 6-hexylenoxycarbonyl, 5-pentylenoyloxy, 7-heptylenoxy, 7-heptylenoxycarbonyl, 6-hexylenovloxy, 8-octylenoxy, 8-octylenoxycarbonyl, 7-heptylenoyloxy, 9-nonylenoxy, 9-nonvlenoxycarbonyl, 8-octylenoyloxy, 10-decylenoxy, 10-decylenoxycarbonyl, 9-nonvlenovloxy, 11-undecylenoxy, 11-undecylenoxycarbonyl, 10-decylenoyloxy, 12-dodecylenoxy, 12-dodecylenoxycarbonyl, 11-undecylenoyloxy, 3-propylenaminocarbonyl, 4-butylenaminocarbonyl, 5-pentylenaminocarbonyl, 6-hexylenaminocarbonyl, 7-heptylenaminocarbonyl, 8-octylenaminocarbonyl, 9-nonylenaminocarbonyl, 10-decylenaminocarbonyl, 11-undecylenaminocarbonyl, 12-dodecylenaminocarbonyl, 2-ethylenoylamino, 3-propylenoylamino, 4-butylenoylamino, 5-pentylenoylamino, 6-hexylenoylamino, 7-heptylenoylamino, 8-octylenoylamino, 9-nonylenoylamino, 10-decylenovlamino, 11-undecylenovlamino, 2-(methylenoxy)ethanoyloxy, 3-(methylenoxy)propyloxy, 3-(methylenoxy)propyloxycarbonyl, 4-(methylenoxy)butyloxy, 4-(methylenoxy)butyloxycarbonyl, 3-(methylenoxy)propanoyloxy, 5-(methylenoxy)pentyloxy, 5-(methylenoxy)pentyloxycarbonyl, 4-(methylenoxy)butanoyloxy, 6-(methylenoxy)hexyloxy, 6-(methylenoxy)hexyloxycarbonyl, 5-(methylenoxy)pentanoyloxy, 7-(methylenoxy)heptyloxy, 7-(methylenoxy)heptyloxycarbonyl, 6-(methylenoxy)hexanoyloxy, 8-(methylenoxy)octyloxy, 8-(methylenoxy)octyloxycarbonyl, 7-(methylenoxy)heptanoyloxy, 9-(methylenoxy)nonyloxy, 9-(methylenoxy)nonyloxycarbonyl, 8-(methylenoxy)octanoyloxy, 10-(methylenoxy)decyloxy, 10-(methylenoxy)decyloxycarbonyl, 9-(methylenoxy)nonanoyloxy, 11-(methylenoxy)undecyloxy, 11-(methylenoxy)undecyloxycarbonyl, 10-(methylenoxy)decanoyloxy, 12-(methylenoxy)dodecyloxy,

- 12-(methylenoxy)dodecyloxycarbonyl, 11-(methylenoxy)undecanoyloxy,
- 3-(methylenoxy)propylaminocarbonyl, 4-(methylenoxy)butylaminocarbonyl,
- 5-(methylenoxy)pentylaminocarbonyl, 6-(methylenoxy)hexylaminocarbonyl,
- 7-(methylenoxy)heptylaminocarbonyl, 8-(methylenoxy)octylaminocarbonyl,
- 9-(methylenoxy)nonylaminocarbonyl, 10-(methylenoxy)decylaminocarbonyl,
- 11-(methylenoxy)undecylaminocarbonyl, 12-(methylenoxy)dodecylaminocarbonyl,
- 2-(methylenoxy)ethanovlamino, 3-(methylenoxy)propanoylamino,
- 4-(methylenoxy)butanoylamino, 5-(methylenoxy)pentanoylamino,
- 6-(methylenoxy)hexanoylamino, 7-(methylenoxy)heptanoylamino,
- 8-(methylenoxy)octanoylamino, 9-(methylenoxy)nonanoylamino,
- 10-(methylenoxy)decanoylamino, 11-(methylenoxy)undecanoylamino, 12-
- (methylenoxy)dodecylaminocarbonyl, 2-(carbonyloxy)ethanoyloxy, 3-(carbonyloxy)propyloxy,
- 3-(carbonyloxy)propyloxycarbonyl, 4-(carbonyloxy)butyloxy, 4-(carbonyloxy)butyloxycarbonyl,
- 3-(carbonyloxy)propanoyloxy, 5-(carbonyloxy)pentyloxy, 5-(carbonyloxy)pentyloxycarbonyl,
- 4-(carbonyloxy)butanoyloxy, 6-(carbonyloxy)hexyloxy, 6-(carbonyloxy)hexyloxycarbonyl,
- 5-(carbonyloxy)pentanoyloxy, 7-(carbonyloxy)heptyloxy, 7-(carbonyloxy)heptyloxycarbonyl,
- 6-(carbonyloxy)hexanoyloxy, 8-(carbonyloxy)octyloxy, 8-(carbonyloxy)octyloxycarbonyl,
- 7-(carbonyloxy)heptanoyloxy, 9-(carbonyloxy)nonyloxy, 9-(carbonyloxy)nonyloxycarbonyl,
- 8-(carbonyloxy)octanoyloxy, 10-(carbonyloxy)decyloxy, 10-(carbonyloxy)decyloxycarbonyl,
- 9-(carbonyloxy)nonanoyloxy, 11-(carbonyloxy)undecyloxy,
- 11-(carbonyloxy)undecyloxycarbonyl, 10-(carbonyloxy)decanoyloxy,
- 12-(carbonyloxy)dodecyloxy, 12-(carbonyloxy)dodecyloxycarbonyl,
- 11-(carbonyloxy)undecanoyloxy, 3-(carbonyloxy)propylaminocarbonyl,

- 4-(carbonyloxy)butylaminocarbonyl, 5-(carbonyloxy)pentylaminocarbonyl,
- 6-(carbonyloxy)hexylaminocarbonyl, 7-(carbonyloxy)heptylaminocarbonyl,
- 8-(carbonyloxy)octylaminocarbonyl, 9-(carbonyloxy)nonylaminocarbonyl,
- 10-(carbonyloxy)decylaminocarbonyl, 11-(carbonyloxy)undecylaminocarbonyl,
- 12-(carbonyloxy)dodecylaminocarbonyl, 2-(carbonyloxy)ethanoylamino,
- 3-(carbonyloxy)propanoylamino, 4-(carbonyloxy)butanoylamino,
- 5-(carbonyloxy)pentanoylamino, 6-(carbonyloxy)hexanoylamino,
- 7-(carbonyloxy)heptanoylamino, 8-(carbonyloxy)octanoylamino,
- 9-(carbonyloxy)nonanoylamino, 10-(carbonyloxy)decanoylamino,
- 11-(carbonyloxy)undecanoylamino, 12-(carbonyloxy)dodecylaminocarbonyl,
- 6-(3-propylenaminocarbonyloxy)hexylen, 6-(3-propylenoxy)hexylen,
- 6-(3-propylenoxy)hexyloxy, 6-(3-propylenaminocarbonyloxy)hexyloxy,
- 6-(3-propylenaminocarbonyl)hexyl, 6-(3-propylenaminocarbonyl)hexyloxy,
- 2-(methylenoxy)ethyloxycarbonyloxy, 3-(methylenoxy)propyloxycarbonyloxy,
- 6-(methylenoxy)hexyloxycarbonyloxy, 2-(methylenoxycarbonyl)ethylen,
- 3-(methylenoxycarbonyl)propyloxycarbonyloxy,
- 6-(methylenoxycarbonyl)hexyloxycarbonyloxy, 6-(3-propylenoxycarbonyloxy)hexylen,
- 6-(3-propylenoxycarbonyl)hexylen, 2-(methylenaminocarbonyl)ethylen,
- 3-(methylenaminocarbonyl)propylen, 6-(methylenaminocarbonyl)hexylen,
- 6-(3-propylenaminocarbonyloxy)hexylen, 6-(3-propylenaminocarbonyl)hexylen,
- 4-{[6-(methylenoxy)hexyl]oxy}phenylen, 4-[6-(methylenoxy)hexyl]cyclohexylen,
- 3-methoxy-4-{[6-(methylenoxy)hexyl]oxy}phenylen,
- 4-{[6-(methylenoxy)hexyl]oxy}phenylcarbonyloxy,

- 4-[6-(methylenoxy)hexyl]cyclohexanoyloxy,
- 3-ethoxy-4-{[8-(methylenoxy)octyl]oxy}phenylcarbonyloxy,
- 4-[3-(carbonyloxy)propyl]phenylen, 4-[6-(carbonyloxy)hexyl]phenylen,
- 4-[6-(carbonyloxy)hexyl]cyclohexylen, 3-methoxy-4-[6-(carbonyloxy)hexyl]phenylen,
- 4-[6-(carbonyloxy)hexyl]phenylcarbonyloxy, 4-[6-(carbonyloxy)hexyl]cyclohexanoyloxy,
- 3-ethoxy-4-[8-(carbonyloxy)octyl]phenylcarbonyloxy,
- 2-{4-4-{2-(methylenoxy)ethyl}cyclohexyl]phenyl}ethoxy, 1-[4'-{[4-(methylenoxy)butyl]oxy}-
- 1,1'biphenyl-4-yl]carbonyloxy, 1-{4-[4-{2-(methylenoxy)ethoxy}phenyl}methyloxy,
- 2-{4-[4-(2-carbonyloxyethyl) cyclohexyl]phenyl}ethoxy, 2-[4'-(4-
- carbonyloxybutyl)-1,1'biphenylen-4-yl]ethoxy, 6-{4-[4-(2-carbonyloxyethyl)phenyl}hexyloxy, and 5-{[4'-[4-(methylenoxy)butoxy)]-1,1'-biphenyl-4-yl]oxy}pentanoyloxy.
- 33. (previously presented): Diamine compounds according to claim 22, wherein S³ is selected from -CO-O-, -CO-NR¹-, -CO-, a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine, or cyano, having 1 to 24 carbon atoms, and a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by fluorine, chlorine, or cyano, having 1 to 24 carbon atoms, wherein one or more -CH₂- groups is independently replaced by a group J, with the proviso that oxygen atoms are not directly attached to each other, wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms.

- (previously presented): Diamine compounds according to claim 22, wherein S³ 35. include 1,2-ethylen, 1,3-propylen, 1,4-butylen, 1,5-pentylen, 1,6-hexylen, 1,7-heptylen, 1.8-octylen, 1.9-nonvlen, 1.10-decylen, 1.11-undecylen, 1.12-dodecylen, 3-methyl-1,4-butylen, 2-(methylenoxy)ethylen, 3-(methylenoxy)propylen, 4-(methylenoxy)butylen, 5-(methylenoxy)pentylen, 6-(methylenoxy)hexylen, 7-(methylenoxy)heptylen, 8-(methylenoxy)octylen, 9-(methylenoxy)nonylen, 10-(methylenoxy)decylen, 11-(methylenoxy)undecylen, 12-(methylenoxy)dodecylen, 2-(carbonyloxy)ethylen, 3-(carbonyloxy)propylen, 4-(carbonyloxy)butylen, 5-(carbonyloxy)pentylen, 6-(carbonyloxy)hexylen, 7-(carbonyloxy)heptylen, 8-(carbonyloxy)octylen, 9-(carbonyloxy)nonylen, 10-(carbonyloxy)decylen, 11-(carbonyloxy)undecylen, 12-(carbonyloxy)dodecylen, 2-(carbonylamino)ethylen, 3-(carbonylamino)propylen, 4-(carbonylamino)butylen, 5-(carbonylamino)pentylen, 6-(carbonylamino)hexylen, 7-(carbonylamino)heptylen, 8-(carbonylamino)octylen, 9-(carbonylamino)nonylen, 10-(carbonylamino)decylen, 11-(carbonylamino)undecylen, 12-(carbonylamino)dodecylen, 6-(3-propylenaminocarbonyloxy)hexylen, 6-(3-propylenoxy)hexylen,

- 6-(3-propylenaminocarbonyl)hexyl, 2-(methylenoxycarbonyl)ethylen,
- 6-(3-propylenoxycarbonyloxy)hexylen, 6-(3-propylenoxycarbonyl)hexylen,
- 2-(methylenaminocarbonyl)ethylen, 3-(methylenaminocarbonyl)propylen,
- 6-(methylenaminocarbonyl)hexylen, 6-(3-propylenaminocarbonyloxy)hexylen,
- 6-(3-propylenaminocarbonyl)hexylen, 4-{[6-(methylenoxy)hexyl]oxy}phenylen,
- 4-[6-(methylenoxy)hexyl]cyclohexylen, 3-methoxy-4-{[6-(methylenoxy)hexyl]oxy}phenylen,
- 4-[3-(carbonyloxy)propyl]phenylen, 4-[6-(carbonyloxy)hexyl]phenylen, and
- 4-[6-(carbonyloxy)hexyl]cyclohexylen, 3-methoxy- 4-[6-(carbonyloxy)hexyl]phenylen.
- 36. (previously presented): Diamine compounds according to claim 22, wherein Q is an oxygen atom or -NH-.
- 37. (previously presented): Diamine compounds according to claim 22, wherein Q is an oxygen atom.
- 38. (previously presented): Diamine compounds according to claim 22, wherein X and Y represent hydrogen.
- 39. (previously presented): Diamine compounds according to claim 22, wherein the photoactive groups are groups of formula IIIa.

- 40. (previously presented): Method of using a diamine compound according to claim 22, comprising providing the diamine compound as precursor for the production of liquid crystal alignment layers.
- 41. (currently amended): A liquid crystal orientation material obtained by the reaction of a diamine compound represented by the general formula I:

$$H_2N$$
 A^1
 A^2
 NH_2

1

wherein A^1 and A^2 each independently represent a mesogen group represented by general formula II:

$$---S^{\frac{1}{2}} C^{\frac{1}{2}} Z^{\frac{1}{2}} C^{\frac{2}{2}} Z^{\frac{2}{2}} C^{\frac{3}{2}} D$$

wherein

c1 to c3 each independently represent an aromatic or an alicyclic group, which is unsubstituted or mono- or poly-substituted by a cyano group or by halogen atoms, or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, or by a cyclic, straight-chain or branched alkyl residue which is unsubstituted, mono- or poly-substituted by fluorine, chlorine, having 1 to 18 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group B;

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D

represents a hydrogen atom, a halogen atom, a cyano group, or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by cyano or fluorine, chlorine, or poly-substituted by fluorine, chlorine, having 1 to 24 carbon atoms, wherein one or more non-adjacent -CH₂-groups is independently replaced by a group B, or represents a organic group having a steroid skeleton;

 S^1

represents a single bond or a spacer unit such a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by a cyano group or by halogen atoms, having 1 to 24 carbon atoms, or a spacer unit which is straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by a cyano group or by halogen atoms, having 1 to 24 carbon atoms, wherein one or more non-adjacent—CH2—groups is independently replaced by a group B; 1,2-ethylene, 1,3-propylene, 1,4-butylene, 1,5-pentylene, 1,6-hexylene, 1,7-heptylene, 1,8-octylene, 1,9-nonylene, 1,10-decylene, 1,11-undecylene, 1,12-dodecylene, 3-methyl-1,4-butylene, 2-(methylenoxy)ethylene, 3-(methylenoxy)propylene, 4-(methylenoxy)butylene, 5-(methylenoxy)pentylene, 6-(methylenoxy)nonylene, 7-(methylenoxy)heptylene, 8-(methylenoxy)octylene, 9-(methylenoxy)nonylene, 10-(methylenoxy)dodecylene, 11-(methylenoxy)undecylene, 12-(methylenoxy)dodecylene, 2-(carbonyloxy)ethylene, 3-(carbonyloxy)propylene, 4-(carbonyloxy)butylene, 2-(carbonyloxy)butylene, 3-(carbonyloxy)propylene, 4-(carbonyloxy)butylene, 2-(carbonyloxy)butylene, 3-(carbonyloxy)propylene, 4-(carbonyloxy)butylene,

5-(carbonyloxy)pentylene, 6-(carbonyloxy)hexylene, 7-(carbonyloxy)heptylene,

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8-(carbonyloxy)octylene, 9-(carbonyloxy)nonylene, 10-(carbonyloxy)decylene,

11-(carbonyloxy)undecylene, 12-(carbonyloxy)dodecylene,

2-(carbonylamino)ethylene, 3-(carbonylamino)propylene,

4-(carbonylamino)butylene, 5-(carbonylamino)pentylene,

6-(carbonylamino)hexylene, 7-(carbonylamino)heptylene,

8-(carbonylamino)octylene, 9-(carbonylamino)nonylene,

10-(carbonylamino)decylene, 11-(carbonylamino)undecylene,

12-(carbonylamino)dodecylene, 3-propyleneoxy, 3-propyleneoxycarbonyl,

2-ethylenoyloxy, 4-butyleneoxy, 4-butyleneoxycarbonyl, 3-propylenoyloxy,

5-pentyleneoxy, 5-pentyleneoxycarbonyl, 4-butylenoyloxy, 6-hexyleneoxy,

6-hexyleneoxycarbonyl, 5-pentylenoyloxy, 7-heptyleneoxy,

7-heptyleneoxycarbonyl, 6-hexylenoyloxy, 8-octyleneoxy,

8-octyleneoxycarbonyl, 7-heptylenoyloxy, 9-nonyleneoxy,

9-nonyleneoxycarbonyl, 8-octylenoyloxy, 10-decyleneoxy,

10-decyleneoxycarbonyl, 9-nonylenoyloxy, 11-undecyleneoxy,

11-undecyleneoxycarbonyl, 10-decylenoyloxy, 12-dodecyleneoxy,

12-dodecyleneoxycarbonyl, 11-undecylenoyloxy, 3-propyleneaminocarbonyl,

4-butyleneaminocarbonyl, 5-pentyleneaminocarbonyl, 6-hexyleneaminocarbonyl,

7-heptyleneaminocarbonyl, 8-octyleneaminocarbonyl, 9-nonyleneaminocarbonyl,

10-decyleneaminocarbonyl, 11-undecyleneaminocarbonyl,

12-dodecyleneaminocarbonyl, 2-ethylenecarbonylamino,

3-propylenecarbonylamino, 4-butylenecarbonylamino,

5-pentylenecarbonylamino, 6-hexylenecarbonylamino,

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7-heptylenecarbonylamino, 8-octylenecarbonylamino, 9-nonylenecarbonylamino,

10-decylenecarbonylamino, 11-undecylenecarbonylamino,

2-(methylenoxy)ethanoyloxy, 3-(methylenoxy)propyloxy,

3-(methylenoxy)propyloxycarbonyl, 4-(methylenoxy)butyloxy,

4-(methylenoxy)butyloxycarbonyl, 3-(methylenoxy)propanoyloxy,

5-(methylenoxy)pentyloxy, 5-(methylenoxy)pentyloxycarbonyl,

4-(methylenoxy)butanoyloxy, 6-(methylenoxy)hexyloxy,

6-(methylenoxy)hexyloxycarbonyl, 5-(methylenoxy)pentanoyloxy,

7-(methylenoxy)heptyloxy, 7-(methylenoxy)heptyloxycarbonyl,

6-(methylenoxy)hexanoyloxy, 8-(methylenoxy)octyloxy,

8-(methylenoxy)octyloxycarbonyl, 7-(methylenoxy)heptanoyloxy,

9-(methylenoxy)nonyloxy, 9-(methylenoxy)nonyloxycarbonyl,

8-(methylenoxy)octanoyloxy, 10-(methylenoxy)decyloxy,

10-(methylenoxy)decyloxycarbonyl, 9-(methylenoxy)nonanoyloxy,

11-(methylenoxy)undecyloxy, 11-(methylenoxy)undecyloxycarbonyl,

10-(methylenoxy)decanoyloxy, 12-(methylenoxy)dodecyloxy,

12-(methylenoxy)dodecyloxycarbonyl, 11-(methylenoxy)undecanoyloxy,

3-(methylenoxy)propylaminocarbonyl, 4-(methylenoxy)butylaminocarbonyl,

5-(methylenoxy)pentylaminocarbonyl, 6-(methylenoxy)hexylaminocarbonyl,

7-(methylenoxy)heptylaminocarbonyl, 8-(methylenoxy)octylaminocarbonyl,

9-(methylenoxy)nonylaminocarbonyl, 10-(methylenoxy)decylaminocarbonyl,

11-(methylenoxy)undecylaminocarbonyl,

12-(methylenoxy)dodecylaminocarbonyl, 2-(methylenoxy)ethanoylamino,

- 3-(methylenoxy)propanoylamino, 4-(methylenoxy)butanoylamino,
- 5-(methylenoxy)pentanoylamino, 6-(methylenoxy)hexanoylamino,
- 7-(methylenoxy)heptanoylamino, 8-(methylenoxy)octanoylamino,
- 9-(methylenoxy)nonanoylamino, 10-(methylenoxy)decanoylamino,
- 11-(methylenoxy)undecanoylamino, 12-(methylenoxy)dodecylaminocarbonyl,
- 2-(carbonyloxy)ethanoyloxy, 3-(carbonyloxy)propyloxy,
- 3-(carbonyloxy)propyloxycarbonyl, 4-(carbonyloxy)butyloxy,
- 4-(carbonyloxy)butyloxycarbonyl, 3-(carbonyloxy)propanoyloxy,
- 5-(carbonyloxy)pentyloxy, 5-(carbonyloxy)pentyloxycarbonyl,
- 4-(carbonyloxy)butanoyloxy, 6-(carbonyloxy)hexyloxy,
- 6-(carbonyloxy)hexyloxycarbonyl, 5-(carbonyloxy)pentanoyloxy,
- 7-(carbonyloxy)heptyloxy, 7-(carbonyloxy)heptyloxycarbonyl,
- 6-(carbonyloxy)hexanoyloxy, 8-(carbonyloxy)octyloxy,
- 8-(carbonyloxy)octyloxycarbonyl, 7-(carbonyloxy)heptanoyloxy,
- 9-(carbonyloxy)nonyloxy, 9-(carbonyloxy)nonyloxycarbonyl,
- 8-(carbonyloxy)octanoyloxy, 10-(carbonyloxy)decyloxy,
- 10-(carbonyloxy)decyloxycarbonyl, 9-(carbonyloxy)nonanoyloxy,
- 11-(carbonyloxy)undecyloxy, 11-(carbonyloxy)undecyloxycarbonyl,
- 10-(carbonyloxy)decanoyloxy, 12-(carbonyloxy)dodecyloxy,
- 12-(carbonyloxy)dodecyloxycarbonyl, 11-(carbonyloxy)undecanoyloxy,
- 3-(carbonyloxy)propylaminocarbonyl, 4-(carbonyloxy)butylaminocarbonyl,
- 5-(carbonyloxy)pentylaminocarbonyl, 6-(carbonyloxy)hexylaminocarbonyl,
- 7-(carbonyloxy)heptylaminocarbonyl, 8-(carbonyloxy)octylaminocarbonyl,

- 9-(carbonyloxy)nonylaminocarbonyl, 10-(carbonyloxy)decylaminocarbonyl,
- 11-(carbonyloxy)undecylaminocarbonyl,
- 12-(carbonyloxy)dodecylaminocarbonyl, 2-(carbonyloxy)ethanoylamino,
- 3-(carbonyloxy)propanoylamino, 4-(carbonyloxy)butanoylamino,
- 5-(carbonyloxy)pentanoylamino, 6-(carbonyloxy)hexanoylamino,
- 7-(carbonyloxy)heptanoylamino, 8-(carbonyloxy)octanoylamino,
- 9-(carbonyloxy)nonanoylamino, 10-(carbonyloxy)decanoylamino,
- 11-(carbonyloxy)undecanoylamino, 12-(carbonyloxy)dodecylaminocarbonyl
- 6-(3-propyleneaminocarbonyloxy)hexylene, 6-(3-propyleneoxy)hexylene,
- 6-(3-propyleneoxy)hexyloxy, 6-(3-propyleneaminocarbonyloxy)hexyloxy,
- 6-(3-propyleneaminocarbonyl)hexyl, 6-(3-propyleneaminocarbonyl)hexyloxy,
- 2-(1-methyleneoxy)ethyloxycarbonyloxy,
- 3-(1-methyleneoxy)propyloxycarbonyloxy,
- 6-(1-methyleneoxy)hexyloxycarbonyloxy, 2-(1-methyleneoxycarbonyl)ethylene,
- 3-(1-methyleneoxycarbonyl)propyloxycarbonyloxy.
- 6-(1-methyleneoxycarbonyl)hexyloxycarbonyloxy,
- 6-(3-propyleneoxycarbonyloxy)hexylene, 6-(3-propyleneoxycarbonyl)hexylene,
- 2-(1-methyleneaminocarbonyl)ethylene,
- 3-(1-methyleneaminocarbonyl)propylene,
- 6-(1-methyleneaminocarbonyl)hexylene, and
- 6-(3-propyleneaminocarbonyloxy)hexylene,
- 6-(3-propyleneaminocarbonyl)hexylene;

21, Z2 each independently of the other represent a single bond or a spacer unit which is straight-chain or branched alkylene group which is unsubstituted, mono or polysubstituted by a cyano group or by halogen atoms, having 1 to 8 carbon atoms or a spacer unit such a straight-chain or branched alkylene group which is unsubstituted, mono or poly-substituted by a cyano group or by halogen atoms, having 1 to 8 carbon atoms, wherein one or more non-adjacent -CH₂- groups is independently replaced by a group B;

n1 is 0 or 1, and

n1-to-n2 and n3 are each independently 0 or 1; and

B represents a group selected from -O-, -CO-, -CO-O-, -O-CO-, -NR¹-, -NR¹-CO-, -CO-NR¹-, -NR¹-CO-O-, -O-CO-NR¹-, -NR¹-CO-NR¹-, -CH=CH-, -C≡C-, -O-CO-O- and -Si(CH₃)₂-O-Si(CH₃)₂- and wherein R¹ represents a hydrogen atom or a straight chain or branched hydrocarbon radical having from 1 to 6 carbon atoms._{.5}

with the proviso that if n1 = n2 = n3 = 0 then D is a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by eyano or fluorine, chlorine, or polysubstituted by fluorine, chlorine, having 5 to 24 carbon atoms or a straight-chain or branched alkyl residue which is unsubstituted, mono-substituted by eyano or fluorine, chlorine, or polysubstituted by fluorine, chlorine, having 5 to 24 carbon atoms, wherein one or more non-adjacent —CH2—groups—is independently replaced by a group B, or represents a organic group having a steroid skeleton.

42-67. (canceled).